



SPEC[®] CINT2006 Result

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NEC Corporation

Express5800/110Ri-1
(Intel Xeon E3110)

SPECint[®]2006 = 25.5

SPECint_base2006 = 21.9

CPU2006 license: 9006

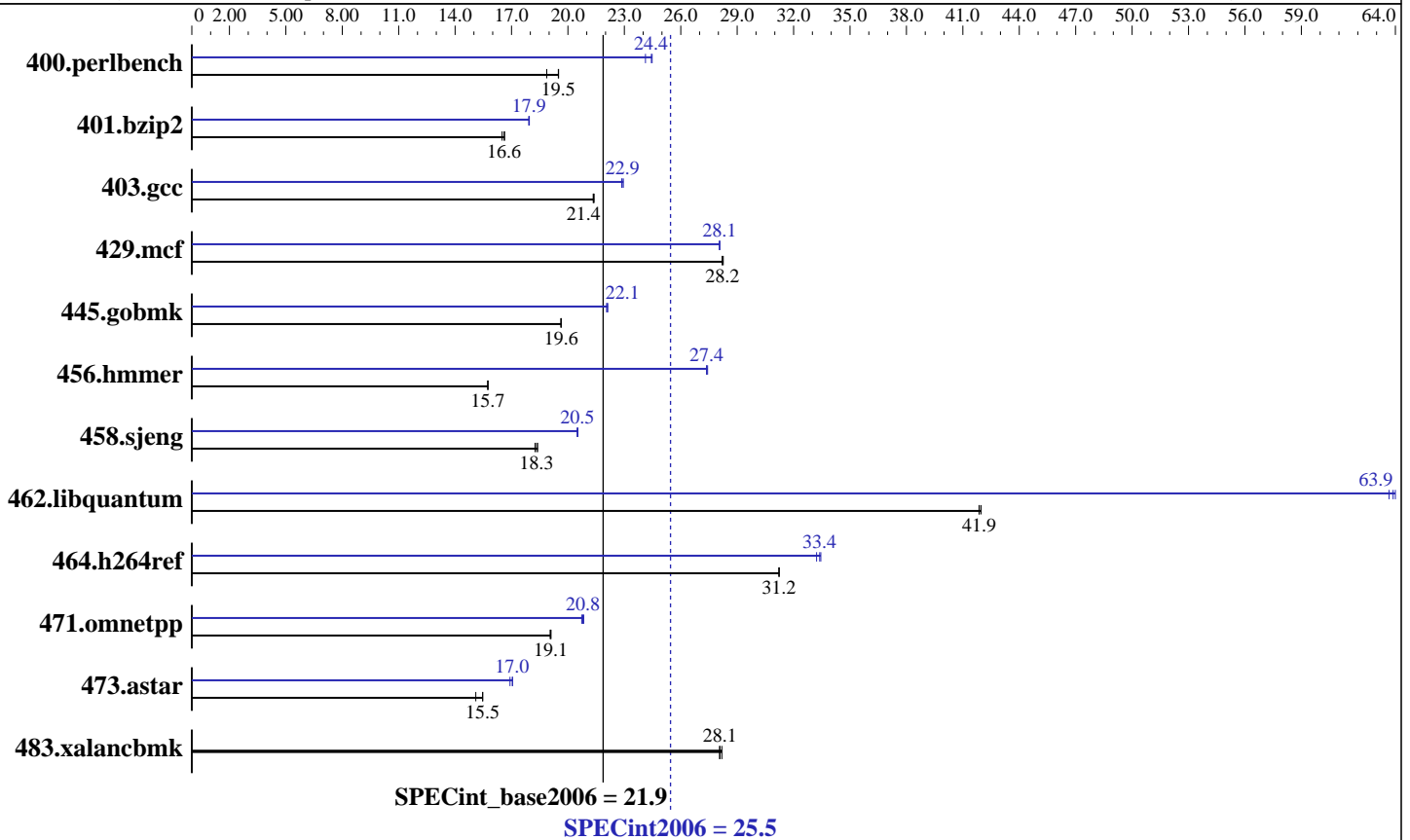
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jul-2008

Hardware Availability: Apr-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E3110
 CPU Characteristics: 3.00 GHz, 6 MB L2, 1333 MHz bus
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 6 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 8 GB (4x2 GB PC2-6400E, 2 rank, CL6-6-6, ECC)
 Disk Subsystem: 1x80.0 GB SATAII, 7200RPM
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
 Compiler: Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill SmartHeap library 8.1 binutils 2.17



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<u>501</u>	<u>19.5</u>	518	18.9	501	19.5	<u>400</u>	<u>24.4</u>	399	24.5	405	24.1
401.bzip2	<u>581</u>	<u>16.6</u>	585	16.5	580	16.6	538	17.9	<u>538</u>	<u>17.9</u>	539	17.9
403.gcc	376	21.4	<u>377</u>	<u>21.4</u>	377	21.3	<u>352</u>	<u>22.9</u>	352	22.9	351	22.9
429.mcf	<u>323</u>	<u>28.2</u>	323	28.2	323	28.3	325	28.1	<u>325</u>	<u>28.1</u>	325	28.1
445.gobmk	534	19.6	<u>534</u>	<u>19.6</u>	534	19.6	<u>475</u>	<u>22.1</u>	475	22.1	474	22.1
456.hmmer	<u>593</u>	<u>15.7</u>	592	15.7	593	15.7	340	27.4	<u>341</u>	<u>27.4</u>	341	27.4
458.sjeng	663	18.2	<u>660</u>	<u>18.3</u>	658	18.4	<u>590</u>	<u>20.5</u>	590	20.5	589	20.5
462.libquantum	494	42.0	<u>495</u>	<u>41.9</u>	495	41.9	324	64.0	325	63.7	<u>324</u>	<u>63.9</u>
464.h264ref	<u>709</u>	<u>31.2</u>	709	31.2	709	31.2	<u>663</u>	<u>33.4</u>	662	33.4	666	33.2
471.omnetpp	327	19.1	<u>327</u>	<u>19.1</u>	328	19.1	301	20.7	<u>301</u>	<u>20.8</u>	300	20.8
473.astar	465	15.1	454	15.5	<u>454</u>	<u>15.5</u>	415	16.9	412	17.1	<u>412</u>	<u>17.0</u>
483.xalancbmk	245	28.2	<u>246</u>	<u>28.1</u>	246	28.1	245	28.2	<u>246</u>	<u>28.1</u>	246	28.1

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores

Platform Notes

Bios settings:
Hardware Prefetcher: Enabled
Adjacent Cache Line Prefetch: Enabled
Intel SpeedStep Technology: Enabled

General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc



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Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-fast -vec-guard-write -parallel -par-runtime-control

C++ benchmarks:
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/lib -lsmartheap

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc

401.bzip2: /opt/intel/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

456.hmmmer: /opt/intel/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

C++ benchmarks:
icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX

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Peak Portability Flags (Continued)

483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias
-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo
-no-prec-div -ansi-alias

456.hmmcr: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive
-auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch
-opt-streaming-stores always -vec-guard-write
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec-div -ansi-alias -opt-ra-region-strategy=block
-Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine
-Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmartheap

483.xalancbmk: basepeak = yes



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Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-INT-ia32-linux-flags.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-INT-ia32-linux-flags.xml>

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For other inquiries, please contact webmaster@spec.org.

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